Initial	Date
CW	4-29-93
MA	4-30-93
[illegible]	4/30/93
DW	4/29/93

BA EN
WR ND
Mail Stop 60190

APR 30 1993

Memorandum

To: Assistant Regional Director, Refuges and Wildlife
Attention: Jim Matthews

From: Regional Engineer, Region 6

Subject: 1992-1993 Annual Water Use Report/Management Plan

The subject report for Tewaukon National Wildlife Refuge has been reviewed and approved as submitted. We have revised the Water Use Report/Management Plan Short Form for Lake Elsie and Storm Lake and are forwarding to the Refuge for future use. We suggest that the Manager consider displaying monthly pool elevations, capacities and surface acres in a table format. Otherwise, these are very good reports.

Please extend our thanks to Refuge personnel for the timely submission of this report.

/s/ WILLIAM A. GODBY

Tewaukon NWR
bcc: EN rf
RO rf
EN:LCoe:4/29/93

Cyhm3/10 Rcn -

United States Department of the Interior
FISH AND WILDLIFE SERVICE
TEWAUKON NATIONAL WILDLIFE REFUGE
RR #1, BOX 75
CAYUGA, NORTH DAKOTA 58013

MEMORANDUM

March 4, 1993

To: R&W, Associate Manager ND (60130)
Denver, CO

From: Refuge Manager, Tewaukon NWR Complex (62660)
Cayuga, ND

Subject: 1993 Annual Water Management Plan and 1992 Use Report

1. List of Water Rights

Declaration of Filing dated September 1, 1934, for Lake Tewaukon and East and West White Lake (including Cutler Marsh), 7,198 acre-feet storage, 4,251 acre-feet seasonal from Wild Rice River.

Declaration of Filing dated September 1, 1934 claimed 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now called Hepi Lake. Listed on the same sheet as Lake Tewaukon/White Lake, as per RO(EN) Marshall Fox's 11-14-83 memo. Water use in pools 5 through 10 is covered under this right, with Hepi Lake to be drawn down to fill these pools.

Permit #1261: 4852 acre-feet storage and 2287 acre-feet seasonal use, for a total of 7139 acre-feet. This permit covers additional storage and seasonal use in Lake Tewaukon, Cutlers Marsh and West White Lake; 409 acre-feet seasonal use to replace water to be diverted from the watershed by Sargent County Water Conservation District project; and total storage and seasonal use for Pools 3 and 4. Priority date December 28, 1964.

Tewaukon NWR #1262: 1,130 acre-feet yearly (635 acre-feet storage and 495 acre-feet seasonal use) for Sprague Lake, dated December 28, 1964, diversion from an unnamed creek in the SE1/4NW1/4, Section 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (236 acre-feet) and Horseshoe Slough (450 acre-feet) dated December 28, 1964, diversion from the Wild Rice River.

Tewaukon NWR #3816 Nickeson Tract: 571 acre-feet (474 acre-feet storage, 97 acre-feet annual use) for the Nickeson Bottoms, a tract jointly owned by the ND Game and Fish Department, US Bureau of Reclamation and USFWS. Diversion is from the Wild Rice River, W 1/2 Section 27, T. 130 N., LTL, R. 54 W. Priority date August 15, 1985.

2. Water Use - 1992

The Wild Rice River, Frenier Dam and Sprague Lake Creek flowed well below average this year. LaBelle Creek flowed well above average, filling Lake Tewaukon. Natural wetlands received very little inflow and were only 20% full after spring runoff. Rains in June and July recharged the wetlands to about 30% wet by freeze-up.

Pool 1 (Lake Tewaukon): The year began with the lake frozen at 1147.86 (1148.0 is full pool and virtually never is attained in the fall after a summer of evaporation loss). LaBelle Creek inflow started about March 2, 1992 and the Wild Rice River inflow started about June 20, 1992. Lake Tewaukon peaked at 1147.75 on July 12 and was frozen over completely on November 6 at 1146.98 (except for two holes kept open by waterfowl and the aerator).

Parker Bay (east end of Lake Tewaukon): Inflow from LaBelle Creek was diverted into Parker's Bay to raise the water level to benefit waterfowl. At years end, there was approximately three feet of water in Parker's Bay.

Pool 2 (Cutler Marsh): Very little inflow was received. Pool 2 went from below the gauge (approximately 1148.15) to peaking at 1151.0 on July 4, 1992. Pool 2 went into freeze-up below the gauge.

Pool 2A: 2A received very little inflow and maintained a depth of 4 to 6 inches throughout the year.

Pool 3 (Maka Pool): This pool was at about 1154.05 when spring runoff began. It peaked at 1154.60 on June 20, 1992. Pool 3 was held at this elevation to provide nesting sites for over-water nesters and brood water. At freeze-up the elevation was 1153.80.

Pool 3A: This pool was at same level as Pool 3 and remained that way all year.

Pool 4 (River Pool): This pool was dry but filled rapidly and peaked at 1160.1 on June 20, 1992. Most of the rain we received in June that caused the river to run was held in this pool, to control cattail growth, which was burned in May.

Pool 5, 5A, 6, 7, 7A: Were dry.

Pool 8 (Hepi Lake): This pool was about 6 to 8 inches deep when spring runoff began and had about 1.5 to 2.5 feet of water in it at freeze up.

Pool 10: This pool held about 6 inches of water from spring until freeze-up.

Pool 11 (West White Lake): This unit received very little runoff and by mid-July was dry.

Pool 12 (East White Lake): Water was backed into this pool through Pools 2 & 3 to provide about 4 foot of water for migrating waterfowl to feed on the seed sources from plants that had established during drawdown (1989 to 1990).

Pool 13 (Mann Lake): Approximately 6 feet of water was allowed into Mann Lake to drown out Cottonwood trees. Which became established during the drought.

14 (Sprague Lake): Due to summer rains south of the lake it peaked on July 19 when full pool was reached. At freeze-up the lake was approximately 6 feet deep.

Pool 16 (Horseshoe Slough Group): No water was available for this unit. Five of the eight wetlands were dry and the three that held water were down to 6 inches by freeze-up.

3. Impoundment Data

Please see the attached chart for capacities for each pool at various elevations. No formal inflow/outflow records were maintained. Please see Section #2 above for elevation changes for the various pools.

4. 1993 Plans

If 1993, is a dry year, we plan to hold all the water we can to maximize waterfowl production in each pool. However, if adequate runoff occurs, the following management objectives will be attempted.

Pool 1 (Lake Tewaukon): Fill to about 1150.0 MSL to allow flow into adjacent wetlands on the Krause WPA, and the Refuge. After these wetlands have received adequate water, the lake will be lowered to the maximum management level of 1148.0 MSL for sport fishery habitat. If possible the new spillway which is now vegetated will be tested.

Parker Bay (east end of Lake Tewaukon): Flood to a maximum of four feet as early as possible in the spring before duck nesting occurs. Maintain a 2-1/2 - 3 foot depth for waterfowl production.

Pool 2 (Cutler Marsh): Fill the pool to 1152.5 MSL to flood dense cattails in the west end without killing vegetation in the lower end. When the water temperatures are correct, small amounts of water will be released in May-August to help commercial fishermen net carp and/or help to rotenone carp.

Pool 3 (Maka Pool): Fill full to approximately 1156.0 and stabilize as quickly as possible before over-water duck nesting is initiated. Drawdown the area northeast of the DU dike. Hold water at maximum depth to slow cattail invasion. If needed, supply water to Pools 2A and 3A. Supply water to Nickeson Bottoms as described in the next section.

Nickeson Bottoms: Flood to a depth of approximately 5 feet as quickly as possible to kill cattails but still minimize carp invasion. Maintain this depth to continue cattail control and encourage establishment of a muskrat population. Muskrats will further aid in cattail control and their lodges will provide waterfowl nesting and loafing sites.

Pool 4 (River Pool): Refill to 1160.0 to retard cattail invasion and establish muskrat populations.

Pools 2A, 3A, 5, 5A, 6, 7, 7A: If possible, fill to maximum depth to flood cattails. Water from Pool 3 can be used to fill Pools 2A and 3A.

Pool 8 (Hepi Lake): Initially 5-6 feet of water may be needed to supply Pools 7A, 7, 6, 5A, 5, 3A, and 2A downstream. Draw the pool down to 3 feet as soon as possible to maintain cattail and bulrush stands. Water from Frenier Dam will probably exceed this recommendation and have to be stored a short time before we can pass it.

Pool 9: If possible keep water out of this pool and allow it to dry up. Drying will allow some cattails to reestablish.

Pool 10: Fill to a maximum of 4-5 feet This wetland should be maintained at this level; to control cattail invasion.

Pool 11 (West White Lake): Fill to depth at 5 to 6 feet to slow cattail invasion.

Pool 12 (East White Lake): Maintain a depth of 2.5 to 3 feet.

Pool 13 (Mann Lake): Fill to depth of 6 feet to kill Cottonwood trees; which became established during 5 years of drought.

Pool 14 (Sprague Lake): Fill to maximum pool, about 9 feet in order to maintain the sport fishery.

Pool 16 (Horseshoe Slough): Gravity flow water from the Wild Rice River to fill all pools. Some pumping may be necessary to top these pools off. Pool A should attain the level of 1207.5 MSL and all others about 1206 MSL.

5. Location Map

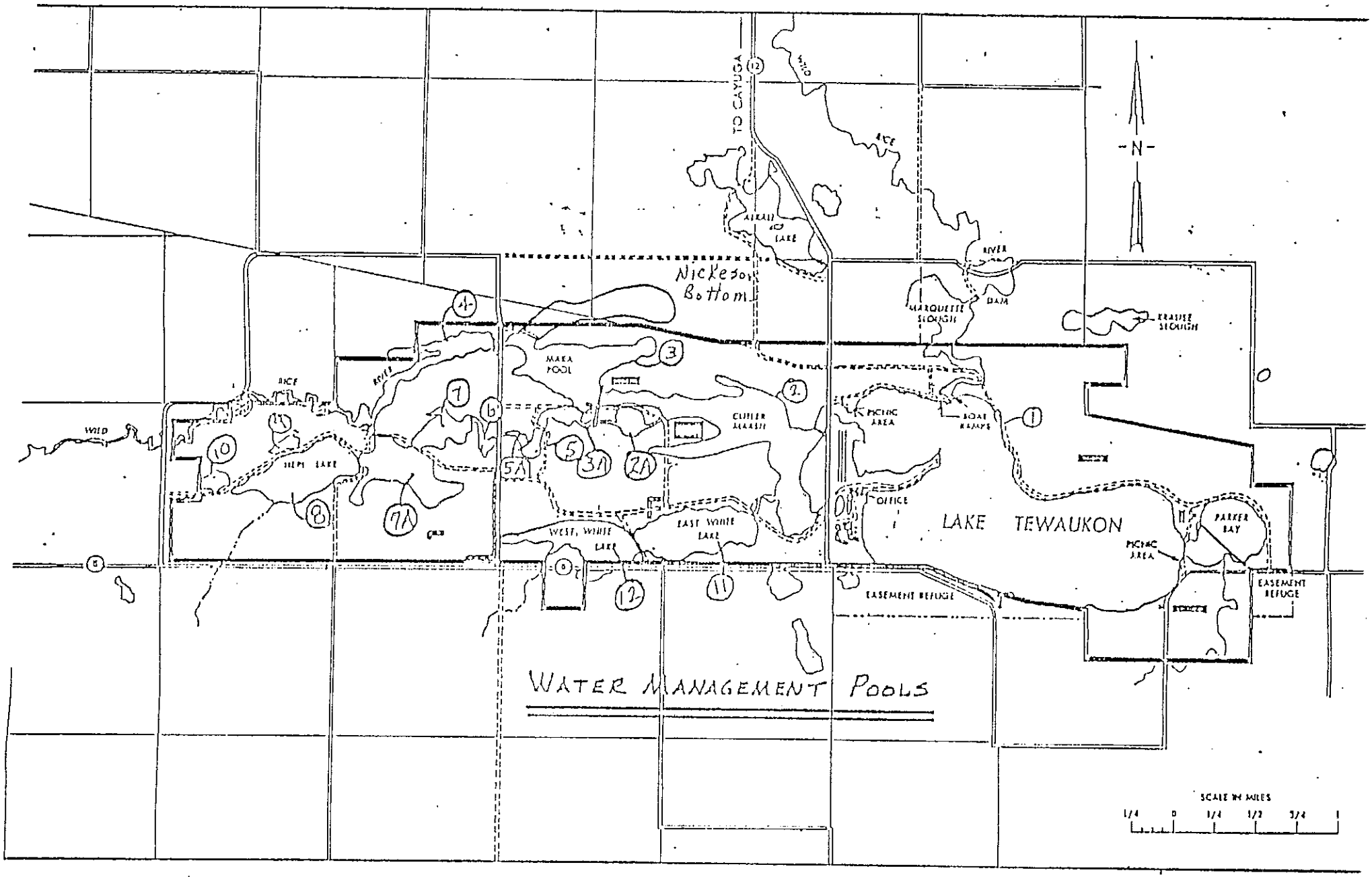
Please see Section #2 for the revised Refuge Map on which all management pools are marked.

Fred G. Giese

Fred G. Giese

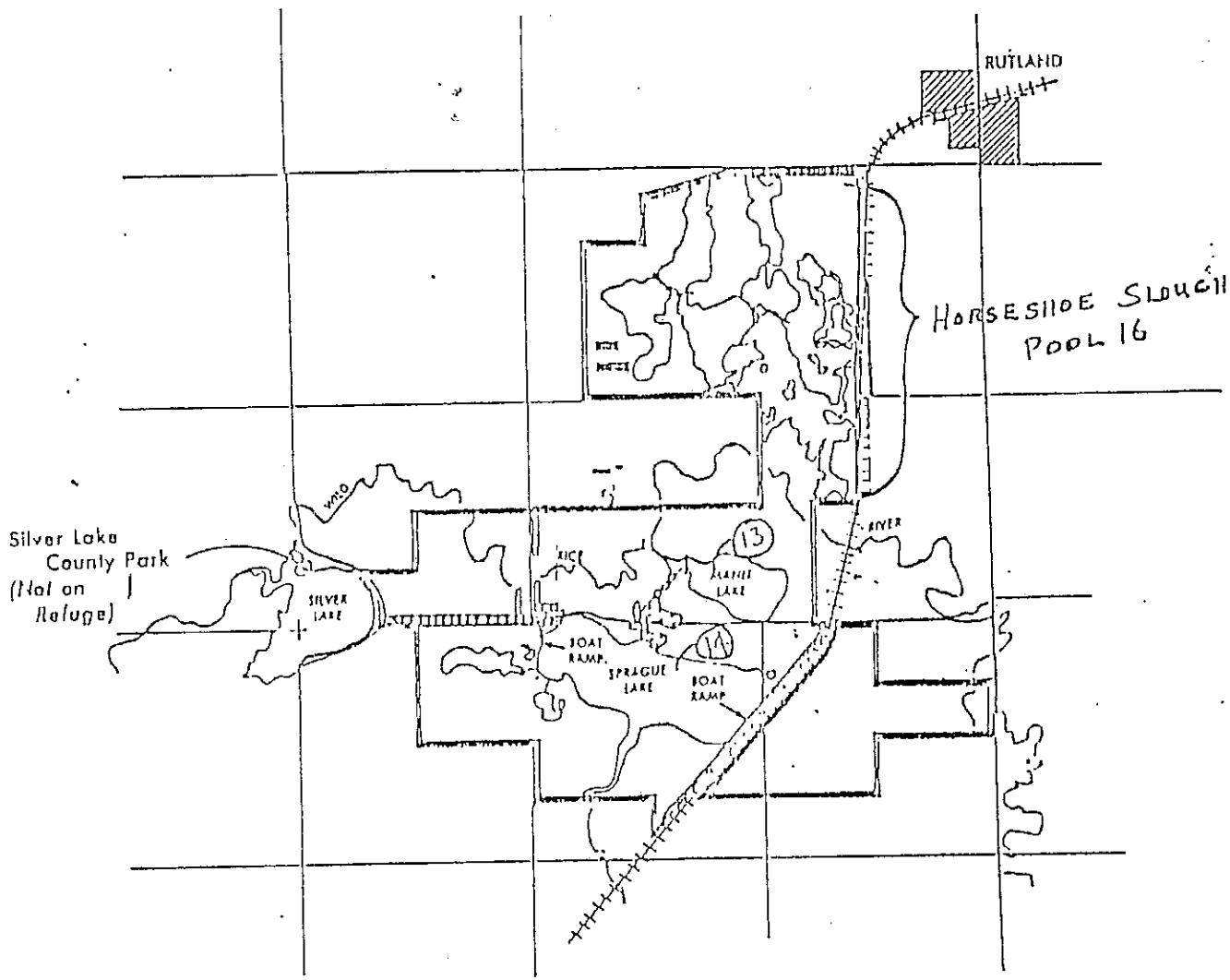
Attachments

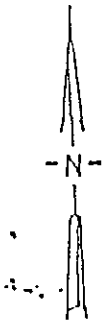
TEWAUKON NWR

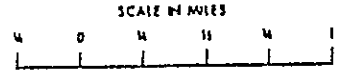


WATER MANAGEMENT POOLS

SPRAGUE LAKE UNIT







TEWAUKON NATIONAL WILDLIFE REFUGE
Pools, Elevations and Acres

12/12/85

Pool 1 - Tewaukon	1149	1015
- Parker's Bay	1149	95
Pool 2 - Cutler's Marsh	1152	246
Pool 2A		30
Pool 3 - Maka Pool	1156	125
Pool 3A		18
Pool 4 - River Pool	1159	108
Pool 5	1160	6
Pool 5A		5
Pool 6	1165	6
Pool 7	1178	21
Pool 7A		106
Pool 8 - Hepi Lake	1179	106
Pool 9	1167	10
Pool 10	1173	5.5
Pool 11 - W. White Lake	1151	80
Pool 12 - E. White Lake	1147	103
Pool 13 - Mann Lake	1207	57
Pool 14 - Sprague Lake	1209	186
Pool 16 - Horseshoe Slough		244
A Pool	1210	119.7
B Pool	1206	42.5
C Pool	1206	10.3
B-West Pool	1206	30.3+
B-North Pool	1206	24.5
C-North Pool	1206	2.8+
C-East Pool	1206	5.5
C-South Pool	1206	9.0

WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORM

Storm Lake NWR, Sargent County
Station Name

June 8, 1991
Date of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Drainage ditch (legal)
Source(s)

(729 acre-feet storage)
(516 acre-feet seasonal)

Water Diverted: Yes_____ No X

*Impoundment(s): Yes_____ No X

Means of Diversion Uncontrolled ditch
Rate unknown
Water level estimate 654 acre-feet
(Elevation or Est. Storage Amount)

*Well(s):
Free Flowing none gpm
Pumped _____ gpm

Type of Use:
Surface Irrigation _____
(Crop) _____
Fish & Wildlife X virtually no
Stock public use
Domestic _____
Other _____

OVERALL CLIMATIC CONDITIONS: 1992 was dry.

CONDITION OF FACILITIES: A diversion dam at the head of the feeder ditch serving Storm Lake washed out well before 1976. Apparently someone decided it wasn't worth repairing.

PROPOSED WATER PROGRAM: No water management capability is present. Water runs down the ditch into the lake to an unknown degree each spring. Water did not run in 1992 due to low runoff volume.

COMMENTS: The lake serves as an excellent waterfowl loafing sanctuary with good use by snow geese, canvasbacks, redheads, lesser scaup, and tundra swans. Water levels fluctuate on their own. If active management was initiated, some degree of improvement might be gained by a cycle of drawdown management. It is questionable if the benefits would be worth the costs for Storm Lake alone. However, when you look at the other three wetlands to the south we should continue to work with Ducks Unlimited and put the Mini Joint Venture back on tract. The Golf Course Association of Milnor has been very quiet in their request to use lake water to irrigate portions of the Storm Lake Golf Course. The Association was granted a conditional water right, junior to that of the FWS. The Golf Course Association is now looking into doing some new landscaping and has contacted us about the possibility of doing some cosmetic changes on the feeder ditch.

Fred G. Giese

Fred G. Giese

*If more than one impoundment or well, please attach additional sheet.

WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORM

Lake Elsie NWR, Richland County
Station Name

Summer, 1991 (date not recorded)
Date of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Minor local runoff, at least two drainage ditches, several springs
Source(s)

(522 acre-feet storage)
(900 acre-feet seasonal)

Water Diverted: Yes_____ No X

*Impoundment(s): Yes_____ No X

Means of Diversion None
Rate _____
Water level 522 acre-feet
(Elevation or Est. Storage Amount)

*Well(s):
Free Flowing none-known gpm
Pumped _____gpm

Type of Use:
Surface Irrigation _____
(Crop) _____
Fish & Wildlife XX
Stock _____
Domestic _____
Other high public use: swimming water skiing, fishing

OVERALL CLIMATIC CONDITIONS: 1992 was relatively dry. Very minor amounts of runoff were received.

CONDITION OF FACILITIES: No facilities present.

PROPOSED WATER PROGRAM: None, no water management capability is present. At maximum, the lake spills north through a (damaged) culvert.

COMMENTS: The lake is an extremely popular summer recreational area. The Richland County Commissioners, Richland County Wildlife Club and the North Dakota Game and Fish are looking at a project that would include raising the bridge and county road, provide a fishing bridge, build a Carp trapping area and the possibility of a Walleye rearing pond.

Public meeting held for FWS to divest itself of easement interest on Lake Elsie.

Fred G. Giese

Fred G. Giese

*If more than one impoundment or well, please attach additional sheet.

WATER USE REPORT/MANAGEMENT PLAN - *SHORT FORM* - REPORT YEAR: _____

STATION NAME: LAKE ELSIE NWR MANAGING STATION: Tewaukon WMD

WATER RIGHTS DATA

Declaration of filing:
WATER RIGHT NO: August 30, 1937 PRIORITY DATE: September 1, 1934

SOURCE: Minor local runoff, at least two drainage ditches, several springs
Red River Watershed-Wild Rice
WATER DIVERTED: YES X NO ___ IMPOUNDMENTS: YES ___ NO X

MEANS OF DIVERSION: None AF STORAGE: 522 AF

RATE OF DIVERSION: _____ AF SEASONAL: 900 AF

WELLS: YES ___ NO X FREE FLOWING: _____ GPM or PUMPED: _____ GPM

TYPE OF USE: Fish & Wildlife: X Domestic: ___

Crop Irrigation: ___ Stock: ___

Other: High public use: swimming, water skiing, and fishing

INSPECTION DATA

Please complete all pertinent information for ACTUAL use versus the Water Rights data.

DATE OF INSPECTION: _____ INSPECTED BY: _____

CONDITIONS AT INSPECTION:

AF STORAGE: _____ OR ESTIMATED ELEVATION: _____

WELLS: FREE FLOWING: _____ GPM OR PUMPED: _____ GPM

CONDITION OF FACILITIES: _____

OVERALL CLIMACTIC CONDITIONS: _____

PROPOSED WATER PROGRAM: _____

COMMENTS: _____

WATER USE REPORT/MANAGEMENT PLAN - *SHORT FORM* - REPORT YEAR: _____

STATION NAME: STORM LAKE NWR MANAGING STATION: Tewaukon WMD

WATER RIGHTS DATA

WATER RIGHT NO: Declaration of Filing: August 30, 1937 PRIORITY DATE: August 30, 1937

SOURCE: Red River Watershed

WATER DIVERTED: YES X NO ___ IMPOUNDMENTS: YES ___ NO X

MEANS OF DIVERSION: Uncontrolled ditch AF STORAGE: 729 AF

RATE OF DIVERSION: Unknown AF SEASONAL: 516 AF

WELLS: YES ___ NO X FREE FLOWING: _____ GPM or PUMPED: _____ GP

TYPE OF USE: Fish & Wildlife: X Domestic: ___

Crop Irrigation: ___ Stock: ___

Other: *Virtually no public use

INSPECTION DATA

Please complete all pertinent information for ACTUAL use versus the Water Rights data.

DATE OF INSPECTION: _____ INSPECTED BY: _____

CONDITIONS AT INSPECTION:

AF STORAGE: _____ OR ESTIMATED ELEVATION: _____

WELLS: FREE FLOWING: _____ GPM OR PUMPED: _____ GPM

CONDITION OF FACILITIES: _____

OVERALL CLIMACTIC CONDITIONS: _____

PROPOSED WATER PROGRAM: _____

COMMENTS: _____